

## CLAIMS

What is claimed is:

1. A connector assembly for use in an economy of space with an electrical  
5 system housing having an internal electrical system, said connector assembly  
releasably receiving physical and electrical couplings external to said electrical  
system housing, said connector assembly comprising:  
a connector housing configured to be received by said electrical system  
housing;  
10 an IR input connector housed within said connector housing;  
an S-video input connector housed within said connector housing, said IR  
input connector and said S-video input connector together having a first footprint on a  
system board of said internal electrical system when coupled to said system board;  
and  
15 a fiber optic input connector housed within said connector housing, said fiber  
optic input connector having a second footprint when coupled to said system board,  
said first and second footprints communicating with one another on said system  
board,  
wherein electrical leads of said IR input connector and said S-video input  
20 connector in said first footprint are displaced from electrical leads of said fiber optic  
input connector in said second footprint when said IR input connector, said S-video  
input connector and said fiber optic input connector are coupled to the internal  
electrical system within the electrical system housing.
- 25 2. The connector assembly of Claim 1 wherein said input connectors  
vertically overlay one another.

3. The connector assembly of Claim 1 wherein said connector housing is substantially one-piece construction and wherein a portion of said connector housing physically coupling said fiber optic input connector is integrally formed with a portion  
5 of said connector housing physically coupling said IR input connector and said S-video input connector.

4. The connector assembly of Claim 1 wherein said first footprint on said system board is positioned substantially between an edge of said system board and  
10 said second footprint on said system board.

5. The connector assembly of Claim 1 wherein said first footprint on said system board is positioned adjacent an edge of said system board and said second footprint is displaced from the edge of said system board behind said first footprint.  
15

6. The connector assembly of Claim 1 wherein said connector housing is received in a connector panel of said electrical system housing, and wherein said first footprint is positioned adjacent said connector panel and an edge of said system board, and said second footprint is displaced from said connector panel behind said  
20 first footprint.

7. The connector assembly of Claim 1 wherein said fiber optic input connector housed within said connector housing overlies said IR and S-video input connectors housed by said connector housing and said first and second footprint are  
25 adjacent one another.

8. The connector assembly of Claim 1 wherein said connector housing includes a front and rear, said electrical leads of said fiber optic input connector extending to the exterior of said connector housing through said rear of said connector housing to at least partially define said second footprint on said system board.

9. The connector assembly of Claim 8 wherein said connector housing includes a back plate coupled to said rear of said connector housing, said electrical leads of said fiber optic input connector extending through said back plate to the exterior of said connector housing.

10. The connector assembly of Claim 1 wherein said fiber optic input connector comprises a receptacle portion to receive and retain a disconnectable mechanical plug on an end of a fiber optic cable, said receptacle portion elongated in a horizontal manner when said connector assembly is retained in the electrical system housing to maximize vertical space on a connector panel of said electrical system housing.

11. The connector assembly of Claim 1 wherein said fiber optic input connector comprises a receptacle portion to receive and retain a disconnectable mechanical plug on an end of a fiber optic cable, said receptacle portion having a length  $x$  greater than a length  $y$ , and said length  $x$  of said receptacle portion of said fiber optic input connector oriented in a substantially horizontal manner to maximize vertical space on a connector panel of said electrical system housing.

25

12. The connector assembly of Claim 1 wherein said connector housing is formed from multi-piece construction such that said connector housing separately encloses said fiber optic input connector and separately encloses together said IR and S-video input connectors, wherein said fiber optic input connector can be detached  
5 from said S-video and IR input connectors.

13. The connector assembly of Claim 1 wherein said IR input connector, said S-video input connector and said fiber optic input connector are physically and electrically coupled to said system board without an add-on-board.

10

14. In a device comprising an electrical system housing having an internal electrical system, a connector assembly adapted to be received and retained in an economy of space by said device, said connector assembly for releasably receiving physical and electrical couplings external to said electrical system housing, said  
15 connector assembly comprising:

a connector housing configured to be received by said electrical system housing;

an IR input connector housed within said connector housing;

an S-video input connector housed within said connector housing, said IR  
20 input connector and said S-video input connector together having a first footprint on a system board of said internal electrical system when coupled to said system board;  
and

a fiber optic input connector housed within said connector housing, said fiber optic input connector having a second footprint on said system board when coupled to

said system board, said first and second footprints on said system board  
communicating with one another,

wherein electrical leads of said IR input connector and said S-video input  
connector in said first footprint are displaced from electrical leads of said fiber optic  
5 input connector in said second footprint when said IR input connector, said S-video  
input connector and said fiber optic input connector are coupled to said internal  
electrical system within said electrical system housing of said subscriber device.

15. The subscriber device of Claim 14 wherein said device is a set-top-box.  
10

16. A connector interface comprising a connector assembly for use in an  
economy of space with a connector panel of an electrical system housing having an  
internal electrical system, said connector assembly for releasably receiving physical  
and electrical couplings external to the electrical system housing, said connector  
15 assembly comprising:

a connector housing configured to be received and retained in said connector  
panel of said electrical system housing;

an IR input connector housed within said connector housing;

an S-video input connector housed within said connector housing, said IR  
20 input connector and said S-video input connector together having a first footprint  
when coupled to a system board of said internal electrical system; and

a fiber optic input connector housed within said connector housing, said fiber  
optic input connector having a second footprint when coupled to said system board of  
said internal electrical system, said first and second footprints communicating with  
25 one another,

wherein said input connectors are housed together in said connector housing to permit maximum vertical spacing on said connector panel of said electrical system housing.

5           17. The connector interface of Claim 16 wherein said first footprint is positioned adjacent both said connector panel, and said second footprint is displaced from said connector panel behind said first footprint.

10           18. The connector interface of Claim 15 wherein said fiber optic input connector comprises a receptacle portion to receive and retain a disconnectable mechanical plug on an end of a fiber optic cable, said receptacle portion elongated in a horizontal manner when said connector assembly is retained in said electrical system housing.

15           19. A connector assembly for use in an economy of space with an electrical system housing having an internal electrical system, said connector assembly releasably receiving physical and electrical couplings external to said electrical system housing, said connector assembly comprising:

20           a connector housing configured to be received by said electrical system housing;

            a first connector housed within said connector housing;

            a second connector housed within said connector housing, said first and second connectors together having a first footprint on a circuit board of said internal electrical system when coupled to said system board; and

a third connector housed within said connector housing, said third connector having a second footprint when coupled to said circuit board, said first and second footprints communicating with one another on said circuit board,

wherein electrical leads of said first and second connectors in said first  
5 footprint are displaced from electrical leads of said third connector in said second footprint when coupled to the internal electrical system within the electrical system housing.

10